

CLAIMS

1. A method for transmission within a wireless communication system, the method comprising the steps of:
- 5 receiving a plurality of uplink transmissions from a plurality of remote units;
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determining a subset of the plurality of remote units, wherein the subset is determined based on an energy of an uplink transmission of each remote from the plurality of remote units;
- 10 combining uplink transmissions for the subset to produce a combined signal; and
- transmitting the combined signal to a base station to be broadcast via a downlink communication signal to the plurality of remote units.
- 15 2. The method of claim 1 wherein the step of receiving the plurality of uplink transmissions from the plurality of remote units comprises the step of receiving a plurality of traffic channel transmissions from the plurality of remote units.
3. The method of claim 1 wherein the step of determining the subset of the
- 20 plurality of remote units comprises the step of determining a second plurality of remote units from the first plurality of remote units, wherein the second plurality of remote units have uplink transmissions having a highest energy.
4. The method of claim 1 wherein the step of combining the uplink
- 25 transmissions for the subset comprises the steps of:
- decoding uplink transmissions for the subset to produce a plurality of decoded transmissions;
- summing the plurality of decoded transmissions to produce a summed decoded transmission; and
- 30 encoding the summed decoded transmission.
5. The method of claim 1 wherein the step of transmitting the combined signal to the base station to be broadcast via the downlink communication signal comprises the step of transmitting the combined signal to the base station to be broadcast via
- 35 a downlink traffic channel to the plurality of remote units.

6. A method for transmission within a wireless communication system, the method comprising the steps of:

receiving a first plurality of uplink voice transmissions from a plurality of remote units;

determining a second plurality of uplink voice transmissions from the first plurality of uplink voice transmissions, wherein the second plurality of uplink voice transmissions are determined based on an energy of their transmission;

combining the second plurality of uplink voice transmissions; and

transmitting the combined uplink voice transmissions to a base station to be broadcast via a downlink voice channel to the plurality of remote units.

7. The method of claim 6 wherein the step of determining the second plurality of uplink voice transmissions based on an energy of their transmissions comprises the step of determining a plurality of uplink voice transmissions having a highest energy.

8. The method of claim 6 wherein the step of combining the second plurality of uplink voice transmissions comprises the steps of:

decoding each of the second plurality of uplink voice transmissions;

summing the decoded transmissions to produce a summed decoded transmission; and

encoding the summed decoded transmission.

9. An apparatus comprising:

a logic unit having a first plurality of uplink transmissions from a plurality of remote units as an input and outputting a second plurality of uplink transmissions taken from the first plurality of uplink transmissions, wherein the second plurality of uplink transmissions are determined based on an energy of their uplink transmission; and

a transcoder having the second plurality of uplink transmissions as an input and outputting a signal equivalent to the combination of the plurality of uplink transmissions.

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A2

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A3

10. The apparatus of claim 9 wherein the first plurality of uplink transmissions comprise a plurality of uplink traffic channel transmissions.

11. The apparatus of claim 9 wherein the second plurality of uplink transmissions
5 comprise highest energy transmissions from the first plurality of uplink transmissions.

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